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Metal/Nonmetal - Underground Fatalities First Half - 1989

U.S. Department of Labor
Mine Safety and Health Administration

ABSTRACTS WITH ILLUSTRATIONS

ANALYSIS AND SUGGESTED USES

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INTRODUCTION

The 1989 Fatal Illustration Program is divided into four large categories or subject areas. These categories are underground coal mining; surface coal mining; underground metal/nonmetal mining; and surface metal/nonmetal mining.

The materials in this unit include illustrated abstracts (summaries) of all chargeable underground metal/nonmetal mining fatalities for the first six months of 1989 accompanied by 35mm slides, and a statistical analysis of the accidents in that category.

The analysis section retains the same format used in past years. This package of materials, through its abstracts, slides and statistics, has been an effective training tool for the mining industry, especially small mines. This program has been used by various companies in safety meetings, annual refresher training, new miner training, and task training.

Fatalities - Underground Metal/Nonmetal Mines - First Half 1989

Statistical Analysis

Six fatal accidents occurred at underground metal/nonmetal mines during January through June 1989.

Victim's Experience

- Two of the 6 victims were less than 35 years old.
- Four of the 6 victims were more than 35 years old.
- Five of the 6 victims had over six years' mining experience; the remaining victim had 4 1/2 years' mining experience.

Accident Classification

- Fall of ground/roof/back accounted for 3 fatalities while electrical, fall of person, hoisting, and powered haulage each accounted for 1 fatality.

Mining Operation

- Two of the 6 fatalities occurred at gold operations and 1 occurred at a gold and silver operation.

Mine Size

All of the fatalities occurred at large mines (20 or more employees).

Fatalities by Victim's Age
Underground Metal/Nonmetal - First Half 1989

This Table Shows Fatalities by Age of Victim

Age (Years)	Number of Fatalities
26-30	1
31-35	1
36-40	2
41-45	2

Fatalities by Victim's Experience
Underground Metal/Nonmetal - First Half 1989

This Table Shows Fatalities by Victim's Experience

Experience (Years)	Mining Experience	Job Experience	Experience This Mine
0 - 6 mos.	-	1	1
6 mos.-1 yr.	-	2	-
2 - 3 yrs.	-	2	1
4 - 5 yrs.	1	1	-
6 - 7 yrs.	1	-	1
8 - 9 yrs.	1	-	1
10-11 yrs.	-	-	1
12-13 yrs.	1	-	1
16-17 yrs.	1	-	-
20-21 yrs.	1	-	-

Fatalities by Accident Classification
Underground Metal/Nonmetal - First Half 1989

This Table Shows Fatalities by Accident Classification

Classification	Number of Fatalities
Electrical	1
Fall of Ground/Roof/Back	2
Fall of Person	1
Hoisting	1
Powered Haulage	1

Fatalities by Victim's Occupation
Underground Metal/Nonmetal - First Half 1989

This Table Shows Fatalities by Victim's Occupation

Occupation	Number of Fatalities
Loader Operator	1
Maintenance Repairman	1
Mine Geologist	1
Miner	1
Scaler	1
Shaftman	1

Fatalities by Mine Size
Underground Metal/Nonmetal - First Half 1989

This Table Shows Fatalities by Size of Mine

Mine Size	Number of Fatalities
Small*	0
Large**	6

* Less than 20 employees

** 20 or more employees

Fatalities by Mining Operation
Underground Metal/Nonmetal - First Half 1989

This Table Shows Fatalities by Type of Mining Operation

Mining Operation	Number of Fatalities
Gold	2
Gold/Silver	1
Gypsum	1
Potash	1
Zinc	1

SLIDE INDEX

Fatalities by Occupation
Underground Metal/Nonmetal - First Half 1989

You will find fatalities that happened to:

SCALERS on slide 1

SHAFTMEN on slide 2

LOADER OPERATORS on slide 4

MAINTENANCE REPAIRMEN on slide 5

MINE GEOLOGISTS on slide 6

MINERS on slide 3

Fatalities by Accident Classification
Underground Metal/Nonmetal - First Half 1989

You will find:

ELECTRICAL fatalities on slide 5

FALL OF ROOF OR BACK fatalities on slides 1 and 3

HOISTING fatalities on slide 2

POWERED HAULAGE fatalities on slide 4

SLIP/FALL OF PERSON fatalities on slide 6

SLIDE INDEX

Fatalities by Mine Size
Underground Metal/Nonmetal - First Half 1989

You will find fatalities that happened at:

LARGE MINES** on slides 1, 2, 3, 4, 5 and 6

* Less than 20 employees

** 20 or more employees

Fatalities by Type of Mining Operation
Underground Metal/Nonmetal - First Half 1989

You will find fatalities that happened at:

GOLD operations on slides 2 and 6

GOLD/SILVER operations on slide 3

GYPSUM operations on slide 1

POTASH operations on slide 5

ZINC operations on slide 4

ABSTRACT OF INVESTIGATION

Date: January 4, 1989
Slide Number: 1 Fatal Case Number: 1
Accident Classification: Fall of Roof
Type of Mine: Gypsum - Underground
Location: Virginia

Age of Victim: 42
Total Mining Experience: 6 years
Total Experience at this Mine: 6 years
Total Experience this Job: 8 months
Number Employed at Mine: 55
Number Working at Time of Accident: Unknown
Time of Accident: 6:45 p.m.

A scaler was killed and another injured when an undetected slab of loose ground fell from the back. All scaling was conducted by a full-time scaling crew. The investigation revealed that the employees involved were experienced, competent persons who were using the proper tools, and following accepted scaling procedures. The crew scaled down all the loose ground they were able to detect in the area. The area was inspected and sounded by the foreman and no additional loose ground was detected. After the foreman left, the crew discovered a hairline crack in the back and decided to pry on it to determine its stability. The large slab fell from the back before they had gotten into position for prying.

Means of Prevention

A mechanical scaling machine should be considered for future use at this operation due to the height of the working headings which are from 12 to 14 feet.

ABSTRACT OF INVESTIGATION

Date: January 19, 1989
Slide Number: 2 Fatal Case Number: 2
Accident Classification: Hoisting
Type of Mine: Gold - Underground
Location: South Dakota

Age of Victim: 31
Total Mining Experience: 13 years, 6 months
Total Experience at this Mine: 13 years, 6 months
Total Experience this Job: 4 years, 9 months
Number Employed at Mine: 771
Number Working at Time of Accident: 36
Time of Accident: 3:50 p.m.

A shaftman was drowned in approximately 9 feet of water in the bottom of a shaft. The victim and another employee were riding on the bottom deck of the man cage with the cage door open when the cage was accidentally lowered into the water. When the cage was raised from the water, the victim had been washed out of the cage and drowned.

Means of Prevention

1. Cage doors or gates shall be closed while persons are being hoisted; they shall not be opened until the cage has come to a stop.
2. Areas where health or safety hazards exist that are not immediately obvious to employees shall be barricaded, or warning signs shall be posted at all approaches.

ABSTRACT OF INVESTIGATION

Date: February 27, 1989
Slide Number: 3 Fatal Case Number: 10
Accident Classification: Fall of Roof/Back
Type of Mine: Gold/Silver - Underground
Location: Arizona

Age of Victim: 44
Total Mining Experience: 20 years
Total Experience at this Mine: 3 months
Total Experience this Job: 2 months
Number Employed at Mine: 111
Number Working at Time of Accident: 15
Time of Accident: 12:30 p.m.

The miner (victim) had loaded several holes for blasting a partial cut, and was drilling additional holes, approximately 30 feet from the loaded ones. The ground was not supported. It appears that the victim stepped back to avoid small rocks falling in front of him. A large slab fell on him from the back.

Means of Prevention
Ground support shall be used where ground conditions, or mining experience in similar conditions in the mine, indicate that it is necessary.

ABSTRACT OF INVESTIGATION

Date: March 11, 1989
Slide Number: 4 Fatal Case Number: 12
Accident Classification: Powered Haulage
Type of Mine: Zinc - Underground
Location: Tennessee

Age of Victim: 40
Total Mining Experience: 8 years
Total Experience at this Mine: 8 years
Total Experience this Job: 2 years
Number Employed at Mine: 127
Number Working at Time of Accident: 13
Time of Accident: 4:40 a.m.

A loader operator was fatally injured when he failed to maintain control of his load-haul-dump unit. He was assigned to haul ore from the developing end of an inclined drift down to the drift mill hole. It could not be established why he lost control but while descending the drift with a load of ore he struck the side of the drift about 80 feet from where he had been mucking. The unit continued down the drift striking the rib several times before coming to a stop about 1,200 feet from the muck pile area.

Means of Prevention
Operators of self-propelled mobile equipment shall maintain control of the equipment while it is in motion. Operating speeds shall be consistent with conditions of roadways, tracks, grades, clearance, visibility, and traffic, and the type of equipment used.

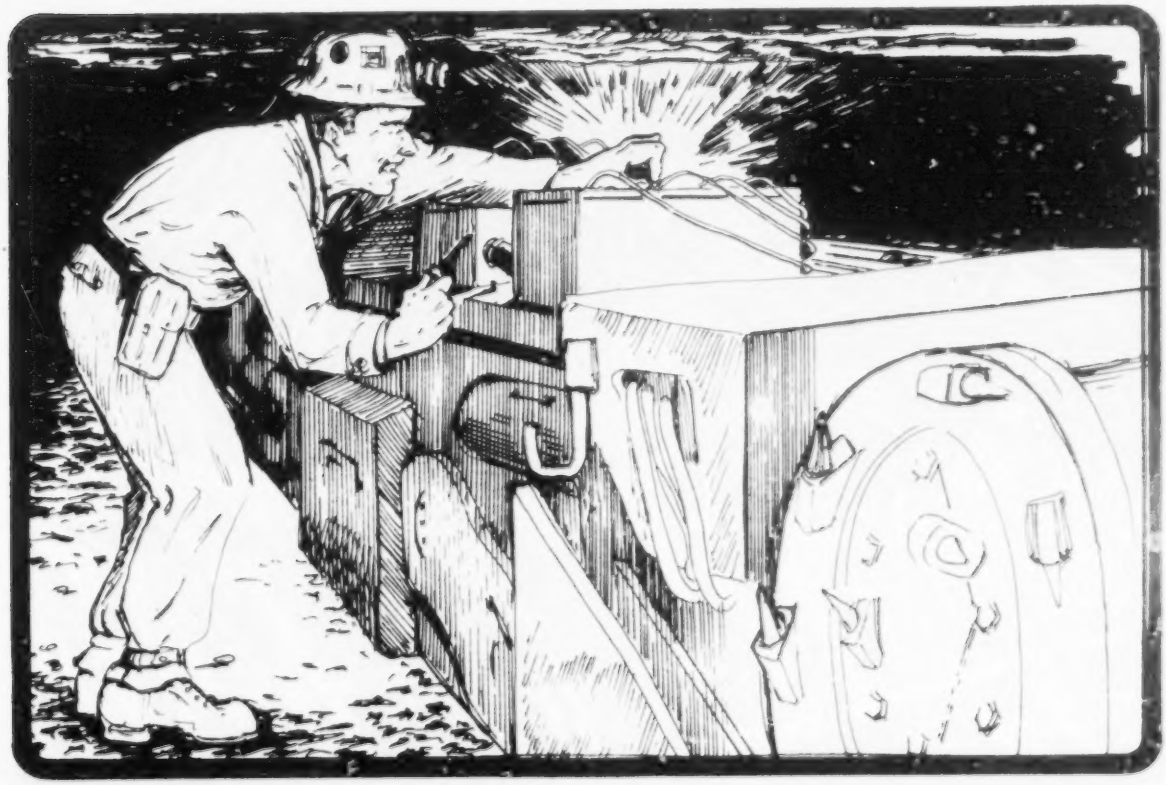
ABSTRACT OF INVESTIGATION

Date: March 18, 1989
Slide Number: 5 Fatal Case Number: 14
Accident Classification: Electrical
Type of Mine: Potash - Underground
Location: New Mexico

Age of Victim: 39
Total Mining Experience: 17 years
Total Experience at this Mine: 10 years, 5 months
Total Experience this Job: 9 months
Number Employed at Mine: 255
Number Working at Time of Accident: 22
Time of Accident: 7:20 p.m.

A maintenance repairman was electrocuted when he contacted bare, energized 480/277 volt AC phase conductor terminations. He was replacing a defective power module (rectifier) on a continuous mining machine without deenergizing and locking out the electrical circuit.

Means of Prevention
Power circuits shall be deenergized before work is done on such circuits unless hot-line tools are used. Switches shall be locked out or other measures taken which shall prevent the power circuits from being energized.



ABSTRACT OF INVESTIGATION

Date: April 6, 1989
Slide Number: 6 Fatal Case Number: 18
Accident Classification: Fall of Person
Type of Mine: Gold - Underground
Location: Colorado

Age of Victim: 29
Total Mining Experience: 4 years, 6 months
Total Experience at this Mine: 2 years, 6 months
Total Experience this Job: 2 years, 6 months
Number Employed at Mine: 155
Number Working at Time of Accident: 60
Time of Accident: 11:20 a.m.

A mine geologist was climbing an ore pass that was being used for a manway. He had been informed that a miner was working above and was told to be sure to notify the miner that he was coming up before entering the ore pass. He did not give warning to the miner working above, and while ascending the ore pass, was either struck by falling rock or slipped and fell down the ore pass.

Means of Prevention

1. Safe means of access shall be provided and maintained to all working places.
2. Before entering a manway where persons may be working or traveling, a warning shall be given by the person entering the manway and acknowledged by any person present in the manway.